

DRAFT
US ENVIRONMENTAL PROTECTION AGENCY’S
HURRICANES IRMA AND MARIA RECOVERY FRAMEWORK FOR
PUERTO RICO AND US VIRGIN ISLANDS
FEBRUARY 20, 2018

A. GOALS OF EPA’S RECOVERY FRAMEWORK

The main goal of the US Environmental Protection Agency’s (EPA) Hurricanes Irma and María Recovery Framework is to guide and improve the disaster recovery efforts that are implemented in Puerto Rico and the US Virgin Islands (USVI) by assuring that these efforts are focused on sustainability, adaptation, and resiliency and result in positive public health and environmental outcomes. This Framework provides a management structure for recovery efforts in the Caribbean and identifies EPA resources, expertise, guidance, programs, and grants that may be available to support disaster recovery in the region. In addition, this Framework aims to provide input to the disaster recovery plans that are being developed by the Federal Emergency Management Agency (FEMA) and the Governments of Puerto Rico and the USVI to assure these plans integrate projects, initiatives, and proposals to protect public health and the environment that have been identified by our agency.

B. NATIONAL DISASTER RECOVERY FRAMEWORK (NDRF)

The US Department of Homeland Security’s FEMA has the primary mission to reduce the loss of life and property and protect the Nation from all hazards, including natural disasters, acts of terrorism, and other man-made disasters, by leading and supporting the Nation in a risk-based, comprehensive management system of preparedness, protection, response, and mitigation. FEMA implements the National Disaster Recovery Framework (NDRF) to guide and promote effective recovery, particularly for those incidents that are large-scale or catastrophic; specifically, through the activation of Recovery Support Functions (RSFs).

The RSFs are organized into six manageable components, each with a lead coordinating agency. These are:

1. **Community Planning and Capacity Building (CPCB) RSF** [Lead: FEMA]
2. **Natural and Cultural Resources RSF** [Lead: US Department of Interior]
3. **Economics RSF** [Lead: US Department of Commerce]
4. **Health and Social Services RSF** [Lead: US Department of Health and Human Services]
5. **Housing RSF** [Lead: US Department of Housing and Urban Development]
6. **Infrastructure Systems RSF** [Lead: US Army Corps of Engineers]

EPA is listed as a Primary Agency for the Health and Social Services RSF and the Natural and Cultural Resources RSF and as a Support Agency for the rest of the RSFs.

The RSFs comprise the coordinating structure for key functional areas of assistance in the NDRF. Their purpose is to support local governments by facilitating problem solving, improving access to resources and by fostering coordination among State and Federal agencies, nongovernmental partners and stakeholders. The RSFs created within the NDRF bring together the core recovery capabilities of Federal departments and agencies and other supporting organizations — including those not active in emergency response — to focus on community recovery needs. Through the RSFs, relevant stakeholders and experts are brought together during steady-state planning and when activated post-disaster to identify and resolve recovery challenges. RSFs and stakeholders organize and request assistance and/or contribute resources and solutions. Together, these RSFs help facilitate local stakeholder participation and promote intergovernmental and public-private partnerships.

The objective of the RSFs is to facilitate the identification, coordination and delivery of Federal assistance needed to supplement recovery resources and efforts by local, State, Tribal and Territorial governments, as well as private and nonprofit sectors. An additional objective is to encourage and complement investments and contributions by the business community, individuals and voluntary, faith-based and community organizations. These Recovery Support Functions activities assist communities with accelerating the process of recovery, redevelopment and revitalization.

The NDRF has been activated in both Puerto Rico and the USVI. Mike Byrne has been named both the Federal Disaster Recovery Coordinator (FDRC) and the Federal Coordinating Officer (FCO) for Puerto Rico. Ken Rathje has been named the FDRC and Bill Vogel the FCO for the USVI. The RSFs are staffed by federal agencies under individual Mission Assignments (MA) from FEMA. FEMA issues MAs to direct other federal agencies to complete specified tasks in response to a Stafford Act event. MAs are issued according to subject matter expertise needs and mission of the participating agency.

C. EPA HURRICANES IRMA AND MARIA RECOVERY OBJECTIVES

In October 2017, EPA's Office of Policy with input from the Regions recently affected by disasters, developed the following recovery objectives:

1. **Provide assistance to the Governments of Puerto Rico and the U.S. Virgin Islands** – Provide assistance so that infrastructure recovery projects and efforts consider and address key environmental needs, requirements and standards.
2. **Build preparedness to mitigate future events** – Lessen the impacts of disasters by assisting federal, state and local agencies and communities prior to disasters.
3. **Promote sustainable and resilient rebuilding** - Use EPA's expertise to inform communities, states and federal partners about rebuilding for the long-term viability of regions' people, economies, and natural ecosystems. Including:

- a. Help communities adapt to climate change and incorporate green infrastructure into their resiliency planning.
 - b. Collaborate with other Federal agencies to leverage all Federal resources in support of a sustainable and resilient recovery.
- 4. **Apply EPA's Knowledge** – Provide EPA's expertise to other Federal agencies, states, and communities in areas of EPA responsibility, such as drinking and waste water infrastructure, brownfields, air quality, or oil and hazardous materials clean-ups.
- 5. **Streamline Federal Action** - Work with our partner agencies to streamline Federal oversight to efficiently fulfill statutory, permitting and/or enforcement requirements in a timely fashion, including if enforcement discretion is warranted.
- 6. **Partner with Environmental Justice (EJ)/Disadvantaged Communities** – Actively engage vulnerable and overburdened communities so they can meaningfully participate and have their issues addressed during recovery operations and planning.

Region 2 has also established recovery objectives specific to Puerto Rico and the USVI within the following core areas:

Recovery Principles:

- Improve Puerto Rico and USVI's environmental and public health outcomes through implementation of disaster recovery initiatives and projects focused on sustainability and resiliency.
- Use EPA's networks of nationwide, regional, and community-based expertise, practices, initiatives, and programs to work with local governments and communities to reduce vulnerability to natural hazard events, recover from disasters, and achieve economic, environmental, and public health outcomes as part of redevelopment and recovery efforts.
- Promote hazard mitigation focusing on breaking the cycle of disaster damage, reconstruction, and repeated damage through the creation of safer communities and reducing the risk of loss of life and property.
- Support communities' efforts to plan and rebuild communities, infrastructure and homes to mitigate future vulnerabilities, protect natural resources, support economic growth, promote the timely completion of recovery projects, and protect human health and the environment.
- Facilitate community involvement in decision-making processes and build communities' capacity to create and implement their visions for recovery and rebuilding.
- Plan for, and rebuild communities, infrastructure and homes to mitigate future vulnerability and promote long term sustainability.
- Rebuild communities with critical infrastructure interdependencies in mind.

- Revitalize local economies while attaining better environmental and human health outcomes.
- Provide scientific and technical support.
- Establish and implement effective recovery support strategies with desired outcomes and performance measures in keeping with NDRF Guiding Principles.
- Integrate the federal recovery resources and capabilities with private sector and NGO partners to expedite support for the RSFs.

Cooperative Federalism and Stakeholder Engagement:

- Enhance agency collaboration at the federal and local level and promote multi-sectoral collaborative approaches in order to create a framework to create more resilient communities.
- Create opportunities for stronger stakeholder engagement, including the development and delivery of cross training and joint training events.
- Assist state and local agencies in ensuring safety of drinking water systems.
- Coordinate with the USACE and FEMA to assist state and local agencies to repair drinking water infrastructure.
- Assist federal, state and local agencies to assess and identify needed repairs to wastewater conveyance and treatment systems.
- Assist federal and local agencies in the management of debris, including in particular hazardous materials, electronic waste, medical waste, refrigerants, white goods, and oil and chemical wastes.
- Provide decision-makers with access to the data and expertise they need to make decisions based on sound science.
- Monitor air quality when/if necessary in response to conditions on the ground.

Recovery Actions:

- Identify practices and models that reduce environmental impacts of recovery efforts.
- Create tools and provide technical assistance to achieve sustainability outcomes and provide subject matter expertise and relevant resources (i.e., technical assistance, personnel) in the areas of environmental protection, public health, smart growth, sustainability, and resiliency.
- Leverage resources, information/data sharing, and existing federal and other non-federal relationships (university)
- Integrate EPA subject matter experts to better inform recovery processes.
- Enhance agency collaboration and provide subject matter expertise and relevant resources in order to incorporate sustainability and smart growth practices into communities' hazard mitigation planning and long-term disaster recovery efforts.
- Incorporate hazard mitigation planning into environmental programs and assistance to communities in Puerto Rico and the USVI.
- Leverage networks of nationwide, regional and community based expertise

- Provide lessons learned that can be used to build a stronger federal framework for mitigation planning as well as pre- and post-disaster recovery planning and operations.
- Develop concrete actions that can be measured and track the results of coordinated assistance on a case by case basis, and share lessons learned from activities.
- Understand potential impacts of extreme weather events, more frequent flooding, and sea level rise on neighborhoods and water and sewer infrastructure and identify ways to reduce vulnerability.
- Use green infrastructure to manage stormwater, reduce flooding risk, and improve water quality.
- Promote and implement brownfields clean up and redevelopment.

Recovery Operations:

- Protect the health and safety of EPA employees.
- Provide senior management with update reports and other relevant information on schedule.
- Provide guidance for length of work day and deployments as it pertains to recovery efforts.
- Coordinate logistics with deployed personnel to provide transportation options, lodging, security, and ground transportation on site.

Recovery Communications:

- Maintain communication and briefing schedule with EPA Region 2 senior executives and EPA Headquarters.
- Report to the Recovery Support Function Leadership Group (RSFLG) on recovery progress in Puerto Rico and USVI and identify challenges requiring RSFLG and DC-based working groups to address.
- Support a consistent communications approach agency-wide, enabling EPA to act and speak in unison during the recovery efforts.

D. RECOVERY MANAGEMENT STRUCTURE

1. **Recovery Support Function Leadership Group (RSFLG)** – The RSFLG was designed to identify and facilitate resolution of operational and policy issues related to disaster recovery. Leverages workgroups and senior leadership to improve effectiveness and unity of effort in coordinating Federal recovery support. EPA Region 2 Regional Administrator Pete López is part of the RSFLG. The RSFLG may elevate issues to the National Security Council's Interagency Policy Process at the Deputies or Principals level on Hurricane Irma/María Recovery issues. The RSFLG meetings are held biweekly in Washington DC.
2. **Regional Recovery Senior Leadership Team** – EPA Region 2 Regional Administrator, Deputy Regional Administrator, and all Division Directors represent the Regional

Recovery Senior Leadership Team (RRSLT). During the first six months of the disaster recovery, the RRSLT will meet on a weekly basis or on an as needed basis.

3. **Regional Disaster Recovery Coordinator** – The responsibilities for overall coordination of recovery efforts at EPA Region 2 lie with the Clean Air and Sustainability Division's (CASD) Disaster Recovery Coordinator.
4. **Caribbean Disaster Recovery Coordinator** – The recovery mission for Hurricanes Irma and María in Puerto Rico and the USVI shall be coordinated at the local level through the Caribbean Disaster Recovery Coordinator within the Caribbean Environment Protection Division (CEPD). The Caribbean Disaster Recovery Coordinator (CDRC) shall work collaboratively with the Regional Disaster Recovery Coordinator at CASD, Region 2 Divisional staff, EPA headquarters, and our sister federal and local agencies, as needed and coordinated by the Regional Disaster Recovery Coordinator.
5. **EPA Recovery and Sustainability Advisors for Puerto Rico and the USVI** - These field advisors shall serve as the primary point of contacts with EPA and the Joint Field Office (JFO) for FEMA's Federal Disaster Recovery Coordinator, the Central Recovery and Reconstruction Office of Puerto Rico (CRRO), and the Government of the USVI. They shall provide direct support to the Regional Disaster Recovery Coordinator and the Caribbean Disaster Recovery Coordinator.
6. **EPA Recovery Support Functions (RSF) and Sector Points of Contacts** – EPA has identified the points of contacts (POCs) for the NDRF's RSFs. The RSFs meet on a weekly basis or on an as needed basis regarding the recovery mission. The RSF POCs are responsible for working with the federal RSF leads to develop a 180 Day Plan for Puerto Rico and a Recovery Support Strategy for the USVI.

In Puerto Rico, FEMA is currently transitioning into a sector organization. This new transition shall be in place by February 28, 2018. Currently, the NDRF in Puerto Rico falls under two Deputies: (1) Office of Community Recovery; and (2) Office of Infrastructure. Under the Office of Community Recovery lies:

- Community Planning and Capacity Building
- Natural and Cultural Resources
- Economics
- Health and Social Services
- Housing

Under the Office of Infrastructure lies:

- Water
- Power
- Municipalities

- Transportation
- Communications
- Public Buildings

As such, EPA will have to reorganize our RSF POCs into Sector POCs. See table below for current list of POCs.

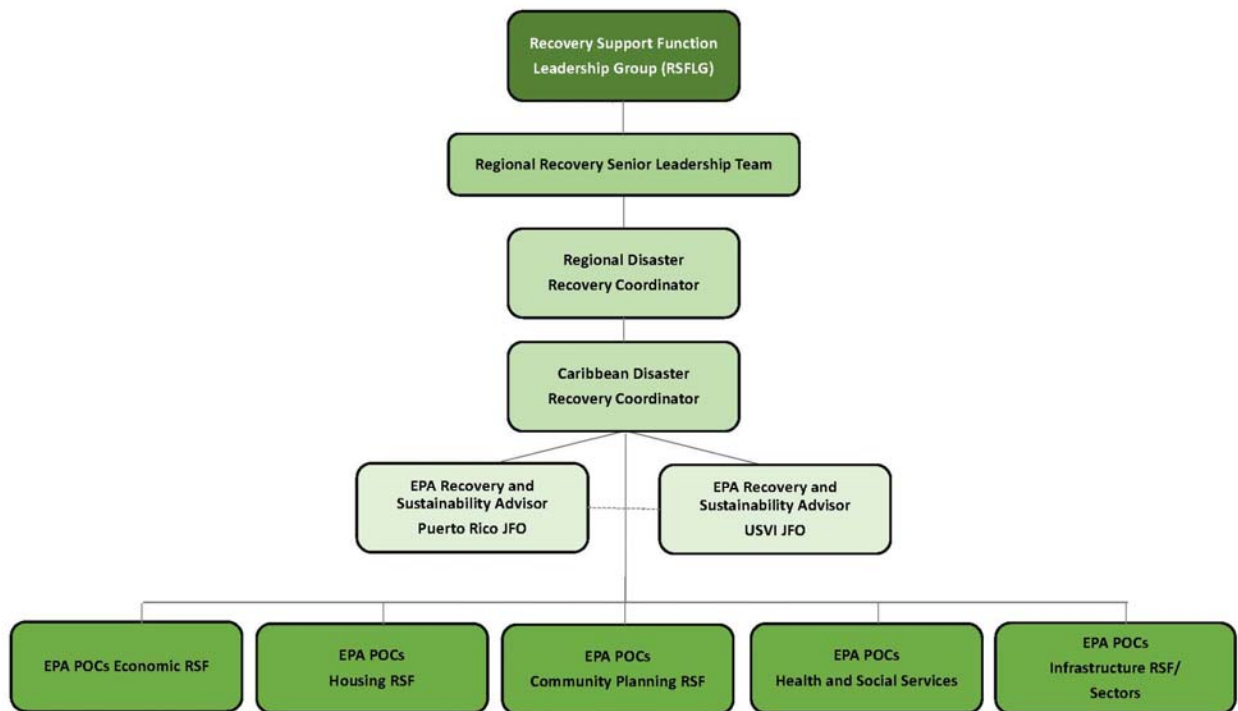
Recovery Support Function (RSFs)/Sectors	EPA Points of Contact (POCs)
Community Planning and Capacity Building RSF	CEPD: Evelyn Huertas CASD: Rabi Kieber CWD: Maureen Krudner
Natural and Cultural Resources RSF	CEPD: Jose Soto/David Huertas CASD: Grace Musumeci/Stephanie Lamster
Economics RSF	ORC-CEPD: Hector Velez ERRD: Terry Wesley/Schenine Mitchell
Health and Social Services RSF	CEPD: Tere Rodriguez CASD: Ameesha Mehta-Sampath
Housing RSF	CEPD: Nancy Rodriguez CASD: Juan Gutierrez
Infrastructure Systems RSF	CEPD: Jaime Geliga ORC-CEPD: Hector Velez CWD: Steve Vida
Water Sector	TBD
Power Sector	TBD
Municipalities Sector	TBD
Transportation Sector	TBD
Communications Sector	TBD
Public Buildings Sector	TBD

In addition to these RSF and Sector POCs, EPA has also identified:

- **United Federal Review Lead:** Grace Musumeci (CASD)
- **Sustainability Advisor:** Rabi Kieber (CASD)
- **Environmental Justice Lead:** Pat Evangelista (Office of Strategic Programs)

The following graphic summarizes the proposed Management Structure for EPA's Hurricane María/Irma Recovery.

PROPOSED MANAGEMENT STRUCTURE FOR EPA'S HURRICANE MARIA/IRMA RECOVERY



7. **Staffing Plan** – EPA Region 2 shall develop a staffing plan for its recovery efforts that includes:

- Caribbean Disaster Recovery Coordinator (2 years);
- EPA Recovery and Sustainability Advisor for Puerto Rico (1 year);
- EPA Recovery and Sustainability Advisor for USVI (1 year);
- Public Information Officer (PIO);
- Community Involvement Coordinators (CICs) (as needed);
- Weekly Recovery Report Unit;
- Data Team and Documentation Unit;
- Logistics Support Section; and
- Finance Support Section.

E. HURRICANE RECOVERY MEETINGS AND UPDATE REPORTS

During the first six months of the disaster recovery, the Regional Recovery Senior Leadership Team will meet on a weekly basis or on an as needed basis. An EPA Region 2 Hurricane Recovery Update Report will be published at COB each Monday. The Weekly Recovery Update shall include:

- Updates on Action Items Identified in Previous Weekly Recovery Meeting
- Updates on Recovery Action Plans
- Significant Accomplishments and Activities
- Issues or Areas of Concern for Senior Management Consideration
- Upcoming Milestones or Deadlines

F. PUBLIC AFFAIRS

EPA Region 2 Public Affairs Division (PAD) will develop responses to media and congressional inquiries and route through the Region and OPA for distribution in direct coordination with EPA Region 2 Regional Disaster Recovery Coordinator and Caribbean Disaster Recovery Coordinator. All press inquiries will be coordinated through the Office of Public Affairs press@epa.gov. PAD will provide all Region 2 staff with relevant Hurricane Maria recovery efforts news clips and EPA news releases.

The EPA Hurricane Maria web site is managed by Region 2 and the HQ EOC. Region 2 staff will be posting regular updates on EPA's recovery efforts to the region's Facebook and Twitter accounts.

The Regional Disaster Recovery Coordinator and Caribbean Disaster Recovery Coordinator shall identify projects, initiatives, and events in which Community Involvement Coordinators (CICs) might be required, in order to establish a Mission Assignment through FEMA based on the scope of work.

G. RECOVERY ASSESSMENTS

Within the first 90 days of the recovery process, EPA shall work with FEMA in developing assessments of disaster recovery needs that will help guide the joint 180 Day Plan for Puerto Rico and the joint Recovery Support Strategy (RSS) for the USVI. Table 1 summarizes the recovery assessment needs identified by EPA as of February 20, 2018.

TABLE 1
PROPOSED EPA RECOVERY ASSESSMENTS
(AS OF FEBRUARY 20, 2018)

AREA	#	ASSESSMENT ACTION	LOCATION	RSF OR SECTOR	EPA POCs
DRINKING WATER	A1	Assessments of Puerto Rico Aqueduct and Sewer Authority (PRASA) Drinking Water Facilities' Damage Inventory and Infrastructure Needs	PR	Infrastructure (Water)	CEPD: Jaime Geliga and Yasmin Laguer
	A2	Assessments of Non-PRASA Systems' Damage Inventory and Infrastructure Needs	PR	Infrastructure (Water)	CEPD: Jaime Geliga and Cristina Maldonado
	A3	Assessments of USVI's Water and Power Authority (WAPA) Damage Inventory and Infrastructure Needs	USVI	Infrastructure	CEPD: Jaime Geliga and Keshema Webbe
	A4	Assessments of USVI Cisterns' Water Quality Monitoring Needs	USVI	Infrastructure	CEPD: Keshema Webbe
WASTEWATER	A5	Assessments of PRASA's Wastewater Facilities' Damage Inventory and Infrastructure Needs	PR	Infrastructure (Water)	CEPD: Jaime Geliga and Yasmin Laguer
	A6	Assessments of USVI Waste Management Authority's Wastewater Facilities' Damage Inventory and Infrastructure Needs	USVI	Infrastructure	CEPD: Pedro Modesto and Keshema Webbe
	A7	Monitoring of Water Quality Standards at Puerto Rico waterbodies (conduct water quality assessments to analyze impact of storms on implementation of water quality standards and regulations in order to identify bodies of waters that do not meet water quality standards (including listing potential water bodies as impaired))	PR	NCR	CEPD: Yasmin Laguer
	A8	Monitoring of Water Quality Standards at USVI waterbodies (conduct water quality assessments to analyze impact of storms on implementation of water quality standards and regulations in order to identify bodies of waters that do not meet water quality standards (including listing potential water bodies as impaired))	USVI	NCR	CEPD: Yasmin Laguer and Keshema Webbe
STORM WATER	A9	Assessments of impaired storm water infrastructure in urban areas Puerto Rico, particularly in the municipalities of: San Juan, Arecibo, Ponce, Humacao, Mayaguez, Bayamon, Cataño, Guaynabo, and Carolina.	PR	Infrastructure (Water, Municipalities)	CEPD: Jaime Geliga and Jose Rivera

AREA	#	ASSESSMENT ACTION	LOCATION	RSF OR SECTOR	EPA POCs
SOLID WASTE MANAGEMENT	A10	Calculate Current Capacity at Puerto Rico Open Dumps and Landfills	PR	Infrastructure (Municipalities)	CASD: Dale Carpenter CEPD: Eduardo Gonzalez
	A11	Calculate Current Capacity at USVI Open Dumps	USVI	Infrastructure (Municipalities)	CASD: Dale Carpenter CEPD: Eduardo Gonzalez
	A12	Assessments of Landfill Operations at Puerto Rico Open Dumps and Landfills	PR	Infrastructure (Municipalities)	CASD: Dale Carpenter CEPD: Eduardo Gonzalez
	A13	Assessments of Landfill Operations at USVI Open Dumps	USVI	Infrastructure (Municipalities)	CASD: Dale Carpenter CEPD: Eduardo Gonzalez
	A14	Assess whether illegal dump sites were created post hurricane and map locations.	PR/USVI	NCR	ERRD: Eric Mosher CASD: Dale Carpenter CEPD: Eduardo Gonzalez
BROWNFIELDS	A15	Assess potential recontamination of Brownfield properties island-wide.	PR/USVI	Economic HSS Municipalities	ERRD: Terry Wesley CEPD: Zolymar Luna and Teresita Rodriguez
	A16	Screening assessments of critical infrastructure (such as closed landfills, Brownfields, and/or Superfund sites) with viable open area for potential solar power generation	PR/USVI	CPCB Energy Municipalities	ERRD: Fernando Rosado, Terry Wesley CEPD: Jaime Geliga and Zolymar Luna ORC: Hector Velez CASD: Rabi Kieber
	A17	Assess creation of new Brownfield sites as a result of storm damage island-wide.	PR/USVI	CPCB Economics HSS Municipalities	ERRD: Terry Wesley CEPD: Zolymar Luna and Teresita Rodriguez CASD: Rabi Kieber

AREA	#	ASSESSMENT ACTION	LOCATION	RSF OR SECTOR	EPA POCs
POWER	A18	Conduct solar screening and assessments for potential Microgrid pilot project in Municipalities of Culebra and Vieques	PR	Infrastructure (Power)	CEPD: Hector Velez
	A19	Conduct solar screening and assessments for potential Microgrid for the central rural region of PR – Municipality of Ciales	PR	Infrastructure (Power)	CEPD: Hector Velez
	A20	Conduct solar screening and assessments for potential Microgrid for University of Puerto Rico's campuses	PR	Infrastructure (Power)	CEPD: Hector Velez
	A21	Conduct solar screening and assessments for potential Microgrid or Nano-grids and RE in Public Housing	PR	Infrastructure (Power)	CEPD: Hector Velez
PUBLIC HEALTH	A22	Air Quality Assessments at required locations	PR/USVI	HHS	TBD
	A23	Health Impact Assessments at required locations	PR/USVI	HHS	TBD
	A24	Indoor Air Quality (IAQ) Assessments for homes, schools, hospitals, clinics, daycare centers and other commercial buildings for mold, wet building materials, airborne asbestos and lead dust at required locations	PR/USVI	HHS	TBD
	A25	Conduct asbestos and/or lead based paint assessment at public building used by refugees of Hurricanes Irma and María, schools, and Child Occupied Facilities (COFs)	PR/USVI	HHS	CEPD: Nancy Rodriguez
ENV.. JUSTICE	A26	Provide Environmental Justice (EJ) assessments that can be part of a priority setting process	PR/USVI	CPCB HSS	CASD: Rabi Kieber, Nick Wirth, and Ameesha Mehta-Sampath CEPD: Teresita Rodriguez

H. 180-DAY PLAN AND RECOVERY SUPPORT STRATEGY

Following assessment of disaster recovery needs, the RSFs and Sectors shall develop a joint 180-Day Plan for Puerto Rico and a Recovery Support Strategy (RSS) for the USVI that identifies recovery goals, strategies, and projects that the local jurisdictions can choose to implement as a unified approach. The Federal Disaster Recovery Coordinators (FDRC) for Puerto Rico and the USVI are responsible for overseeing the implementation of recovery operations after the 180-Day Plan for Puerto Rico and the RSS for the USVI are accepted by the governments of Puerto Rico and the USVI, respectively. The overall premise of the NDRF is that local governments shall lead the recovery effort while federal RSFs provide support and assistance at the request of the affected localities.

EPA will work with the FDRC and other federal agencies to track the Recovery projects as they are implemented. As funds are made available, either through EPA or another federal agency, CASD and CEPD will inform the Regional Recovery Senior Leadership Team about the progress of funds disbursement and the targeting of projects and initiatives as the decisions are made for Puerto Rico and the USVI. Due to the nature of recovery being a long-term process, as projects are implemented, progress reports will be provided on a monthly basis or as needed by the Regional Disaster Recovery Coordinator and the Caribbean Disaster Recovery Coordinator.

The following tables present a list of projects, programs, and initiatives to be monitored Regional Recovery Senior Leadership Team divided into four action areas:

- Structural
- Training, Capacity Building, and Information Sharing
- Environmental Quality, Compliance, and Sustainability
- Policy and Processes

TABLE 2
PROPOSED EPA RECOVERY ACTIONS (STRUCTURAL)
(AS OF FEBRUARY 20, 2018)

AREA	#	STRUCTURAL ACTION	LOCATION	RSF OR SECTOR	EPA POCs
DRINKING WATER AND WASTEWATER	S1	Identify and establish sources of alternate power (solar) to drinking water pump stations and any other plants in order to be able to provide drinking water after power failures	PR/USVI	Infrastructure (Water, Power, Municipalities)	CEPD: Jaime Geliga, Yasmin Laguer and Keshema Webbe ERRD: Fernando Rosado and Terry Wesley
	S2	Develop and implement a resilience strategy for the Puerto Rico Aqueduct and Sewer Authority (PRASA) to disasters and power outages (for drinking water and wastewater facilities)	PR	Infrastructure (Water, Power)	Office of Water, Water Security Division – David Goldbloom-Helzner CWD – Maureen Krudner CEPD - Jaime Geliga
	S3	Develop and implement a resilience strategy for the USVI Water and Power Authority (WAPA) and Waste Management Authority (WMA) to disasters and power outages (for drinking water and wastewater facilities)	USVI	Infrastructure (Water, Power)	Office of Water, Water Security Division – David Goldbloom-Helzner CWD – Maureen Krudner CEPD - Jaime Geliga
	S4	Develop and implement a strategy to mitigate the clogging drinking water intakes during heavy rain events (such as off stream reservoirs)	PR/USVI	Infrastructure (Water)	CEPD: Jaime Geliga, Yasmin Laguer and Keshema Webbe
	S5	Develop a Revitalization, Resilience, and Compliance Strategy for Non-PRASA systems in Puerto Rico	PR	Infrastructure (Water, Municipalities) HHS	CEPD: Jaime Geliga and Cristina Maldonado OW: Mike Finn

AREA	#	STRUCTURAL ACTION	LOCATION	RSF OR SECTOR	EPA POCs
	S6	Develop a Revitalization, Resilience, and Compliance Strategy for cisterns in the USVI	USVI	Infrastructure (Water) HHS	CEPD: Keshema Webbe OW: Mike Finn
	S5	Design and construct stronger sanitary trunk sewers	PR/USVI	Infrastructure (Water)	CEPD: Jaime Geliga and Pedro Modesto
	S6	Relocate wastewater treatment plants away from rivers and flooding (i.e., Dorado, Toa Alta, and San Sebastian) and increase resilience of wastewater facilities that cannot be relocated	PR/USVI	Infrastructure (Water, Municipalities)	CEPD: Jaime Geliga and Yasmin Laguer
	S7	Public Non-PRASA Wastewater Treatment Plants (Boqueron, Caña Gorda and Monte del Estado) – Connect the Boqueron Plant to PRASA. Construct holding tanks at Caña Gorda and Monte del Estado in order to collect and haul sewage to a PRASA wastewater treatment plant	PR	Infrastructure (Water, Municipalities)	CEPD: Jaime Geliga and Yasmin Laguer
	S8	Private Sanitary Pump Stations - Rehabilitate private sanitary pump stations so they meet PRASA design standards. Transfer these pump stations to PRASA. Achieve legislation to prohibit the construction of private pump stations.	PR	Infrastructure (Water, Municipalities)	CEPD: Jaime Geliga and Yasmin Laguer
	S9	Unsewered schools – Connect unsewered schools to PRASA, if possible. For those that cannot be connected to PRASA, construct holding tanks in order to collect and haul sewage to PRASA wastewater treatment plant.	PR	Infrastructure (Water, Public Buildings, Municipalities)	CEPD: Jaime Geliga and Yasmin Laguer
	S10	Develop a pilot strategy to work with septic tanks' construction and maintenance requirements at targeted watersheds	PR/USVI	Infrastructure (Water) HSS	CEPD: Jaime Geliga, Yasmin Laguer, Teresita Rodriguez and Evelyn Huertas
STORM WATER	S11	Upgrade and repair components of challenged/impaired/damaged stormwater infrastructure in MS4 communities, including cleanup and maintenance of key sewer lines and trunks to prevent further flooding.	PR/USVI	CPCB Infrastructure (Water, Municipalities)	CEPD: Jaime Geliga and Jose Rivera

AREA	#	STRUCTURAL ACTION	LOCATION	RSF OR SECTOR	EPA POCs
	S12	Develop a strategy to provide technical support and compliance assistance to MS4 communities in Puerto Rico, particularly the municipalities of: San Juan Bay watershed (San Juan, Bayamon, Cataño, Loíza, Trujillo Alto, Toa Baja, Guaynabo, Carolina, Arecibo, Ponce, Humacao, and Mayaguez.	PR	CPCB Infrastructure (Water, Municipalities)	CEPD: Jaime Geliga and Jose Rivera DECA: Justine Modigliano
	S13	Using innovative technologies for stormwater collection and better management approaches through pilot projects, EPA will help increase stormwater capacity by (1)cleanup and maintenance of key sewer lines and trunks to prevent further flooding, (2) build strategically-located rain gardens to absorb and filtrate runoff, and help prevent floods; (3) substitute asphalt and other impervious surfaces with porous surfaces in targeted areas prone to flooding; and (4), increase vegetable coverage in urban watersheds as a measure to prevent flooding.	PR/USVI	CPCB Infrastructure (Water, Municipalities)	CEPD: Jaime Geliga, Jose Rivera, Evelyn Huertas and Keshema Webbe CWD: Maureen Krudner
	S15	Implement green infrastructure initiatives at Caño Martín Peña	PR	CPCB NCR Infrastructure (Water)	CEPD: Evelyn Huertas ORD: Jason Bernagros
SOLID WASTE MANAGEMENT	S16	Strengthen solid waste infrastructure and close open dumps	PR/USVI	NCR Infrastructure (Municipalities)	CASD: Dale Carpenter and Stephanie Lamster CEPD: Eduardo Gonzalez and Keshema Webbe
	S17	Support development of disaster debris management plans	PR/USVI	CPCB NCR	CASD - Dale Carpenter, Rabi Kieber

AREA	#	STRUCTURAL ACTION	LOCATION	RSF OR SECTOR	EPA POCs
				Infrastructure (Municipalities)	CEPD - Eduardo Gonzalez and Keshema Webbe ERRD – Eric Mosher OA/OHS -
	S18	Implement a Composting Pilot Project	PR/USIV	CPCB NCR Infrastructure (Municipalities)	CASD: Dale Carpenter, Lorraine Graves, and Stephanie Lamster
POWER	S19	Implement potential micro-grid projects in: <ul style="list-style-type: none"> ○ Municipality of Culebra ○ Municipality of Vieques ○ Municipality of Ciales ○ University of Puerto Rico campuses ○ Public Housing projects 	PR	Infrastructure (Power)	CEPD: Hector Velez

TABLE 3
PROPOSED EPA RECOVERY ACTIONS (TRAINING, CAPACITY BUILDING AND INFORMATION SHARING)
(AS OF FEBRUARY 20, 2018)

#	TRAINING/CAPACITY BUILDING/INFORMATION SHARING ACTION	LOCATION	RSF OR SECTOR	EPA POCs
T1	Develop planning capacity for economic development, mitigation planning, smart growth, resilient building codes, etc.	PR/USVI	CPCB	CASD: Rabi Kieber CWD: Maureen Krudner
T2	Inform agencies involved in Recovery about pre-storm solid waste requirements, issues, and challenges. Advance solid waste management planning, source separation, and recycling.	PR/USVI	All	CASD: Dale Carpenter
T3	Public education around safe application of pesticides and chemical safety measures in the housing sector	PR/USVI	HSS Infrastructure (Housing)	CEPD: Nancy Rodriguez DECA: John Gorman CASD: Juan Gutierrez and Ameesha Mehta-Sampath
T4	Promote Trash Free Waters Initiatives and integrate the Urban Water Ambassadors Program into Recovery	PR/USVI	NCR CPCB Infrastructure (Water, Municipalities)	CEPD: Evelyn Huertas CWD – Irene Purdy
T5	Promote and provide technical assistance on EPA’s Water Sense and Energy Star programs (in housing, commercial, government, education, and industrial sectors)	PR/USVI	Infrastructure (Housing, Public Building)	CASD: Juan Gutierrez
T6	Promote green hospitality measures.	PR/USVI	Economic Infrastructure (Water)	CASD: Juan Gutierrez and Joe Bergstein ORC: Hector Velez
T7	Training/Retraining of environmental and public health workforce around a variety of issues such as IAQ, solar panel installation, and recycling.	PR/USVI	CPCB / HSS / Housing / Econ, Infrastr (Power, Water)	ERRD: Schenine Mitchell, Fernando Rosado, and Terry Wesley CASD: Ameesha Mehta- Sampath, Dale Carpenter and Rabi Kiebe
T8	Green infrastructure planning and design assistance.	PR/USVI	CPCB Infrastructure	CW Maureen Krudner CEPD: Evelyn Huertas

#	TRAINING/CAPACITY BUILDING/INFORMATION SHARING ACTION	LOCATION	RSF OR SECTOR	EPA POCs
			Water, Municipalities	
T9	Training for solid waste permit program and enforcement staff.	PR/USVI	CPCB Infrastructure (Water, Municipalities)	CASD: Dale Carpenter
T10	Advancing Research and Innovation through Caribbean Science Consortium and Citizen Science	PR/USVI	CPCB	DESA: John Bourbon

TABLE 4
PROPOSED EPA RECOVERY ACTIONS (ENVIRONMENTAL QUALITY, COMPLIANCE AND SUSTAINABILITY)
(AS OF FEBRUARY 20, 2018)

#	ENVIRONMENTAL QUALITY, COMPLIANCE, AND SUSTAINABILITY ACTION	LOCATION	RSF OR SECTOR	EPA POCs
Q1	Protect critical habitats	PR/USVI	CPCB NCR	CEPD: Teresita Rodriguez, Evelyn Huertas, and David Cuevas
Q2	Promote the USACE Ecological Restoration Project of the Caño Martin Peña	PR	CPCB NCR Housing Infrastructure (Water)	CEPD: Evelyn Huertas
Q3	Promote reforestation with native species (e.g., San Juan Bay Estuary)	PR/USVI	CPCB NCR	CEPD: Teresita Rodriguez, Evelyn Huertas, and David Cuevas
Q4	Ensure and promote sustainable agricultural recovery island-wide.	PR/USVI	HSS Infrastructure (Housing)	CWD: Alyssa Arcaya and Kristina Heinemann CEPD: Lizette Lugo, Nancy Rodriguez and Teresita Rodriguez CASD: Ameesha Mehta- Sampath
Q5	Coral reef monitoring and restoration and water quality monitoring	PR/USVI	NCR Economics Infrastructure (Water)	CWD: Buddy Lobue CASD: Stephanie Lamster OW: Grace Rubio CEPD: David Huertas
Q6	Increase the resilience of the Puerto Rico Environmental Quality Board (PREQB) in order to ensure timely issuance of Water Quality Certificates following a storm.	PR	NCR Economics Infrastructure (Water)	CEPD: Yasmin Laguer
Q7	Remove asbestos and lead from housing and schools including temporary facilities.	PR/USVI	HSS, Housing	CEPD: Nancy Rodriguez and Keshema Webbe

#	ENVIRONMENTAL QUALITY, COMPLIANCE, AND SUSTAINABILITY ACTION	LOCATION	RSF OR SECTOR	EPA POCs
			Municipalities, Public Buildings	
Q8	Promote sustainable construction especially for rebuilding schools and government offices.	PR/USVI	Housing, CPCB Public Buildings, Municipalities)	CASD: Juan Gutierrez CEPD: Keshema Webbe
Q9	Prevent pest-related diseases (ex: leptospirosis) at schools by implementing Integrated Pest Management (IPM) measures.	PR/USVI	HSS, Housing Public Buildings, Municipalities	CEPD: Nancy Rodriguez DECA: John Gorman CASD: Ameesha Mehta- Sampath
Q10	Provide support with Water Quality Monitoring and develop strategies to bring waterbodies that do not meet water quality standards and are impaired into compliance.	PR/USVI	NCR Infrastructure (Water)	CEPD: Jaime Geliga and Yasmin Laguer
Q11	Promote Diesel Emissions Reduction Act (DERA) initiatives throughout port and industrial areas	PR	Transportation	CEPD - John Aponte CASD – Marina Castro

TABLE 5
PROPOSED EPA RECOVERY ACTIONS (POLICY AND PROCESSES)
 (AS OF FEBRUARY 20, 2018)

#	POLICY AND PROCESSES ACTION	LOCATION	RSF OR SECTOR	EPA POCs
P1	Achieve policy by Congress of state cost share for Superfund remedial work.	PR/USVI	CPCB NCR	ERRD: John Prince
P2	Provide conflict resolution services through EPA's Conflict Prevention and Resolution Center.	PR/USVI	CPCB	ORC: Joe Siegel CASD: Rabi Kieber